IN THE ABSTRACT:

Please replace the Abstract of the Disclosure originally filed with the above-identified patent application with the following new Abstract of the Disclosure:

ABSTRACT OF THE DISCLOSURE

A surface acoustic wave sensor for detecting a target substance by measuring the change in frequency due to the mass applied to a reaction membrane placed on a surface acoustic wave element has high sensitivity due to the improvement of the structure surface acoustic wave element. The surface acoustic wave sensor includes an SH-type surface acoustic wave and a rotated Y-cut $LiTaO_3$ substrate having Euler angles (0°, 0° to 18°, 0° ± 5°) or (0°, 58° to 180°, 0° ± 5°), electrodes, principally containing Au, for exciting a surface acoustic wave, the electrodes being arranged on the $LiTaO_3$ substrate, and a reaction membrane, bound to a target substance or a binding substance bound to the target substance, covering the electrodes arranged on the $LiTaO_3$ substrate. The interdigital transducers have a normalized thickness of about 0.8% to about 9.5%, the normalized thickness being determined by normalizing the thickness of the interdigital transducers by the wavelength of the surface acoustic wave.